

METHOD AND APPARATUS FOR CHARGING OIL INTO FLUID-DYNAMIC-PRESSURE BEARINGS, SPINDLE MOTOR UTILIZING FLUID-DYNAMIC-PRESSURE BEARINGS, AND SIGNAL RECORD-AND-PLAYBACK DEVICE UTILIZING FLUID-DYNAMIC-PRESSURE BEARINGS

Abstract

Manufacturing method enabling optimal volume oil-fill even where differing from bearing to bearing due to machining fluctuations in volume-production dynamic pressure bearings. In a first charging method, injection of oil is divided into two cycles. The first is carried out under reduced pressure, following which the pressure is raised a predetermined amount to force the oil into the bearing gap. The oil-fill status is thereupon checked, the shortage is reckoned, and in the second cycle the shortage is injected. In a second charging method, in a first cycle a surplus volume is injected under reduced pressure and the pressure is raised

a predetermined amount to force the oil into the bearing gap. Following that, what is in excess of the appropriate amount is removed from the bearing. The first cycle of injection and the pressure elevation may be implemented multiple times, in between which repeat pressure-reduction can be carried out.